ABSTRACT OF THE DISCLOSURE

A micro array, which comprises a stimulable phosphor sheet, and multiple kinds of biomolecules arrayed and fixed on the stimulable phosphor sheet, is prepared. A biomolecule labeled with an energy generating substance is brought into contact with the micro array and is subjected to hybridization with a fixed biomolecule, which is among the multiple kinds of the biomolecules fixed on the stimulable phosphor sheet. The stimulable phosphor sheet is caused to store energy from the energy generating substance acting as the label of the labeled biomolecule having been hybridized with the fixed biomolecule. The stimulable phosphor sheet is then exposed to stimulating rays, which cause it to emit light in proportion to the amount of energy stored thereon. The emitted light is photoelectrically detected, and the fixed biomolecule having been hybridized with the labeled biomolecule is thus detected.